Emerging Infectious Disease Guidance for Delaware EMS Providers

Airborne/Respiratory Guidance

Novel Coronavirus (2019-nCoV)

Delaware Office of EMS
EMERGENCY MEDICAL SERVICES
DELAWARE HEALTH AND SOCIAL SERVICES
DIVISION OF PUBLIC HEALTH

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Airborne/Respiratory Conditions
Based on CDC and WHO Guidance

An outbreak of a novel coronavirus in Wuhan City, China has been reported to the World Health Organization. As you may have seen on news reports this situation is dynamic and there have been several hundred confirmed infections in China and other Asian countries (including multiple deaths), as well as a travel-related case in Seattle, Washington.

There is limited information about the virus and its ability to spread. Care for the patient is supportive with no vaccine or specific treatment for this virus. In recent years, there have been multiple human coronavirus (CoV) outbreaks around the world that have initiated enhanced screening and increased situational awareness.

This guidance has been developed from previous experiences along with knowledge of current situations, and will be updated as needed. Additionally, each reported outbreak of concern has a dedicated CDC webpage for reference and is included at the end of this document.

Typical Signs and Symptoms of Human Coronavirus

Signs and symptoms appear about 5 days (ranging between 2 and 14 days) after exposure to the virus and most often include:

- Fever
- lower respiratory illness, including:
    - Cough
    - difficulty breathing
    - shortness of breath
    - weakness/fatigue

The incubation period, from exposure to when signs or symptoms appear, will range but is typically from 2 to 14 days. Any patient with signs or symptoms above should be considered infectious, and standard personal protective equipment (PPE) should be utilized.

Screening and Outbreak Specific Symptoms

Before making physical contact with the patient, consider the following screening and outbreak-specific symptoms for the known CoV outbreaks:

2019-nCoV: (2019 novel coronavirus)

Should be considered in anyone presenting with respiratory illness and/or fever and has traveled from China (and/or other impacted areas) in the last 14 days, and/or has a history of contact with a person who is under investigation for 2019-nCoV while they were ill.

Additional symptoms for 2019-nCoV may include: sore throat, chills, headache, vomiting, diarrhea, abdominal pain, and muscle aches.

MERS-CoV: (Middle East Respiratory Syndrome Coronavirus)

A human coronavirus outbreak first reported in 2012 in the Arabian Peninsula. All reported cases have been linked to travel to countries in and around the Arabian Peninsula.

Should be considered in anyone presenting with fever and pneumonia or acute respiratory distress syndrome and traveled in or near the Arabian Peninsula in the last 14 days, or is a part of a cluster of patients with severe acute respiratory illness of unknown etiology identified by DPH. Individuals with a history of being in a health care facility in or near the Arabian Peninsula or who has had recent contact with a MERS case that exhibits mild fever or respiratory illness symptoms should also be considered.

Additional symptoms for MERS-CoV may include: sore throat, chills, vomiting, diarrhea, and muscle aches.

SARS-CoV: (Severe Acute Respiratory Syndrome Coronavirus)

A human coronavirus outbreak first reported in 2002 in China. Since 2004, there have not been any known cases of SARS reported anywhere in the world.

With no known cases, SARS should be considered in anyone presenting with pneumonia requiring hospitalization who has traveled to mainland China, Hong Kong, or Taiwan in the last 10 days, or had close contact with someone who traveled, or who is at direct risk for exposure through their employment in a lab or direct patient contact, or is part of a cluster of atypical pneumonia without alternative diagnosis.

If cases become known, consideration should be given to typical human coronavirus symptoms listed above if within 10 days they had close contact with a suspected SARS case, or had a history of travel (foreign or domestic) to an area affected by the outbreak.

Additional symptoms for SARS-CoV may include: headache, muscle pain, or chills.

Infection Control and Personal Protective Equipment (PPE) Fundamentals

Each agency should have an agency-specific infection control plan and a Designated Officer (DO) that oversees the agency's infectious disease and PPE programs.

Infection control and protection precautions from airborne and respiratory disease exposure:

Hand hygiene:

- Disposable gloves should be properly donned and doffed with every patient or patient under investigation (PUI) encounter.
- Includes both handwashing with either plain or antiseptic-containing soap and water, and the use of alcohol-based products that do not require the use of water
- In absence of visible soiling, alcohol-based products for hand disinfection are preferred.

Gowns

- Disposable gowns (impermeable) should be worn to protect street clothes/uniforms from droplet contamination. If not worn, clothes are to be changed and laundered immediately.

Respiratory and eye protection

- N-95 or higher respirators as well as goggles or face shields should be worn when/during:
    - Patient is coughing or has oral secretions/sputum present
    - Airway management procedures are being performed (endotracheal intubation, suctioning, and administering aerosolized medications)

Respiratory hygiene ("cough etiquette")

- Place surgical mask on patient/PUI (if tolerated) if coughing and/or has oral secretions/sputum present.
- Perform hand hygiene after contact with respiratory secretions.
- Spatial separation, ideally >3 feet, of person(s) with respiratory signs/symptoms.

Disinfection of surfaces

- All hard surfaces (cot rails, mattress, ambulance interior surfaces) are to be cleaned with a quaternary solution, per manufacturer's recommendations.
- Re-useable equipment (stethoscopes, blood pressure cuffs, laryngoscope blades/handles, suction machines, etc.) are to be disinfected per the manufacturer's recommendations.
- Linens are not to be reused until after they've been laundered properly.
- Follow agency standard operating procedures for the containment and disposal of regulated medical waste.

Focusing only on PPE gives a false sense of security of safe care and provider safety. Training is a critical aspect of ensuring infection control. Agencies need to ensure all providers practice numerous

times to make sure they understand how to appropriately use the equipment, especially the step by step putting on and taking off (donning and doffing) of PPE.

Transportation

EMS provider shall contact receiving facility prior to transport to enable the facility to prepare for a Person Under Investigation (PUI).

Hospital response may differ, however, EMS providers should expect to deliver the patient to either the facility DECON room and/or have the patient remain in the ambulance until met by facility staff.

Resources and Links

Situation Summary / Signs and Symptoms:

2019-nCoV: (https://www.cdc.gov/coronavirus/2019-nCoV/clinical-criteria.html)
MERS-CoV: (https://www.cdc.gov/coronavirus/mers/interim-guidance.html#evaluation)
SARS-CoV: (https://www.cdc.gov/sars/clinical/guidance.html)

PPE recommendations *NOTE: this document is for hospital care*

2019-nCoV: (https://www.cdc.gov/coronavirus/2019-nCoV/infection-control.html)